CONSTRUCTION PLAN
Brown County Land Conservation Department

Practice: **Manure Storage Facility (313)**

Owner: **Ledgeview Farms** Phone: (b) (6)(b) (6)

Address: (b) (6)(b) (6)(b) (6) **. DePere, WI 54115**

Township: **Ledgeview** County: **Brown**

Section: (b) (6) T (b) (6) N, R (b) (6) E

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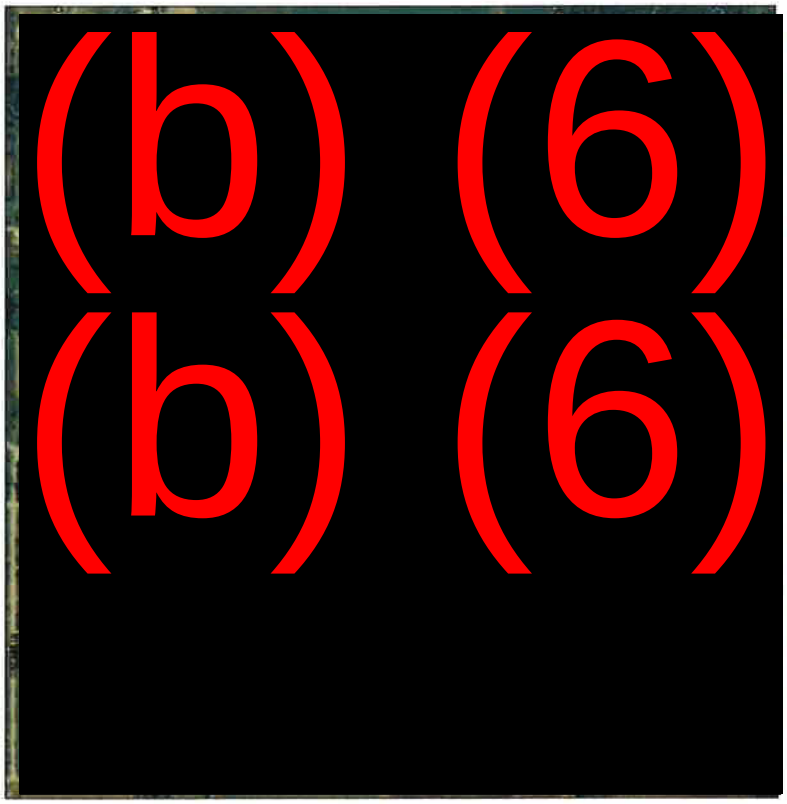
	Attached Specifications:
	Wisconsin Construction Specs.
	4,10,204,300



NOTICE TO LANDOWNERS AND CONTRACTORS REGARDING UTILITIES

No representation is made by Brown County Land & Water Conservation Dept. as to the existence or nonexistence of underground hazards. Prior to the start to construction the owners of utilities must be notified of the pending construction. You will be liable for damages resulting from construction activities! Call **Diggers Hotline: 1-800-242-8511**

CONSTRUCTION DRAWINGS AND SPECIFICATIONS ACCEPTANCE

I/we have reviewed and do accept the attached plans. I/we agree to have this project constructed in accordance with these plans and specifications and to notify all affected utility companies.

I/we agree that any changes made during construction will be pre-approved by an authorized Land Conservation Department agent.

Signed: _____ Date: _____

Designed: DLW Date: 10/14

Checked: _____ Date: _____

Approved: _____ Date: _____

Approved: _____ Date: _____

ESTIMATED QUANTITIES
Brown County Land Conservation

FOR: Ledgeview Farms
BY: DLW
DATE: Nov-14
PROJECT: Manure Storage
COMMENTS:

ITEMS	QUANT.	UNITS	SHEET NUMBER	WI. CONST. SPEC. OR JOB SHEET NO.
All items as installed				
Excavation (in-place yds.)				WCS 204, 300
Topsoil Stripping	3480.00	cu.yds.	6-8	
Clay excavation	12136.00	cu.yds.	7-8	
Fill needed(Trucked/Borrow)	17036.00	cu.yds.	7-8	
Concrete (if used)				WCS 4
5" reinforced slab	23862.00	sq.ft.	7,8,10	
(ramp/storage floor)				
1' wall	180.00	lin.ft.	7-9	
Access Road				
Strip topsoil	13250.00	sq.ft.		
4"-6" Breaker run	328.00	cu.yds.		
Road Gravel	161.00	cu.yds.		
Fence				WCS 10
Barb, woven, high tensile	1162.00	lin.ft.	11	
Gate	20.00	lin.ft.	11	
Erosion Control			6, 16-19	Plan Details
Silt fence	1582.00	lin.ft.	6, 16-19	
Straw bales	15.00	each	6, 16-19	
1"x1"x30" wood stakes	30.00	each	6, 16-19	
Vegetation establishment	2.50	ac.	6,12,16-19	

CONSTRUCTION NOTES

Waste Storage Pond

(Ledgeview Farms)

1. Make sure you have filed your NOI and Construction Site Erosion Control Plan (CSEC) with the DNR. Implement your erosion control measures before starting construction. Strip topsoil from the designed site and respread on top and outside embankments after construction.

2. Contact your Town, County Zoning or Planning Departments for any other possible permits. Contact Brown County Land Conservation Department at least one week in advance to insure all plans are in order and current for construction to begin. Call **(920) 391-4639 for Dave Wetenkamp or 391-4620 for LCD Office.**

3. All volumes for Excavation and Earthfill are determined on the basis of an in place yard of material, plan accordingly for compaction. All soil used in structure must meet NRCS Standard 313 for in-place liner. Follow Wisconsin Construction Specification (WCS) 2 & 204 for building earthen manure storage structure. According to this specification a fully loaded scraper or vibratory roller is to be used compacting the side slopes and berms with a maximum lift of 6" per pass. Tracked dozers can be used for fine grading and to place fill prior to compaction. Review the above attached specifications for further information and guidelines.

4. Concrete mixtures and placement must follow Wis. Construction Spec. 4. All flatwork to be 5" thick w/reinforcement (min), see plan for detail sheets. All steel must be tied in place before pouring concrete and supported with approved plastic/steel chairs or concrete blocks to plan drawing specifications.

5. All concrete is to be cured with white curing compound and meet ASTM - C 309 Type 2 and be applied on walls as soon as forms are removed and on flatwork as soon as it can be walked on.

6. Manure transfer equipment is to be installed according to manufacturer's specifications.

7. Vegetation should be established on disturbed areas as soon as possible after construction is completed according to page 11 and CSEC Plan.

8. Fence the designed Waste Storage Pond according to Wisconsin Construction Specification 10 (Fencing) for human and animal safety.

9. All underground hazards and utilities must be investigated prior to construction start up. Notification of affected utility companies is the responsibility of the owner. Call **Diggers Hotline** 3 days before any excavation (1-800-242-8511).

10. Any trench work over a depth of 5' must be excavated at 1 to 1 side slopes to insure safe working conditions. When excavating and installing pipe follow safe trenching practices as specified by OSHA in subpart P, Excavations, of 19 CFR 1926.650, .651 & .652.

11. Installed transfer pipes must have at least 4 feet of earthen coverage, with 5 feet of coverage strongly recommended.

12. Any length of transfer pipe that has less than 4 feet of earthen coverage needs to be insulated with 4 inches of insulation to prevent freezing. Insulation is to be done with 2 inch thick sheets overlapped by one half of the upper 2 inch thick sheets

13. Area around pit is to be shaped to allow drainage around pit.

14. The transfer pipe is to be firmly and uniformly compacted throughout the entire length with a minimum depth of 6" bedding material above and below pipe(s). Bells are to be located upstream and material excavated around bell joints to prevent pipe from being supported on the bells.

15. All P.V.C. pipe must be approved by Brown County prior to installations.

16. Line valves are required near pump and by storage in the transfer line(s).

17. The Technician on site must confirm 5 ft of good clay(cl) material exists below the sides and the planned bottom for the entire structure. In the event that areas are found not having the required separation, the pit sides or bottom must be moved/raised to achieve the required separation in those locations or the area can be over excavated and poor material removed and replaced with clay material. Where sand, silt or gravel lenses are encountered they shall be excavated 5' vertically & 11' horizontally, replaced with on site clay material and compacted in 6" lifts until finished grades are met according to specifications.

18. The inside berm edge must stay 250' out of the road, property, and well setbacks.

19. Maximum Operating Level markers must be placed in the storage at El. 84.0.

20. Follow your erosion control plan and guidelines.

21. Extra fill from the excavation can be incorporated into berms to provide flatter slopes, provide on-site filling and grading or hauled to an approved offsite area. All disturbed areas must be shaped and seeded.

22. The top of the berm is to be slightly declined away from the inside berm edge.

23. Any elbows in transfer system are to be installed with a ½ yd. concrete thrust block.

24. When existing tile is found on site during excavation, it will need to be properly re-routed with non-perforated tile or abandoned. Plan accordingly for extra connectors. If abandoning tile remove at least 50' upstream and 100' downstream of storage structures outside toe.

590

NUTRIENT MANAGEMENT PLAN CRITERIA

Brown County
Land Conservation Dept.

Section 33

Town of Ledgeview
(b) (6)

May 2007

0 100 200 400 600 800 Feet

RESTRICTED AREAS:

Manure & organic byproducts may not be spread in these areas at any time:

1. Concentrated flow channels.
2. Permanent vegetated buffers
3. 35' buffer zone
4. Wetlands (WI DNR)
5. Within 50 feet of a potable well.
6. Locally identified areas with a high potential to pollute surface water.

Brown County does not guarantee this information to be correct, current or complete. The maps are only intended for use as a general reference and are not intended or suitable for site-specific decisions.

HAZARD AREAS:

Manure & organic byproducts may be spread in these areas only if they are incorporated within 72 hours:

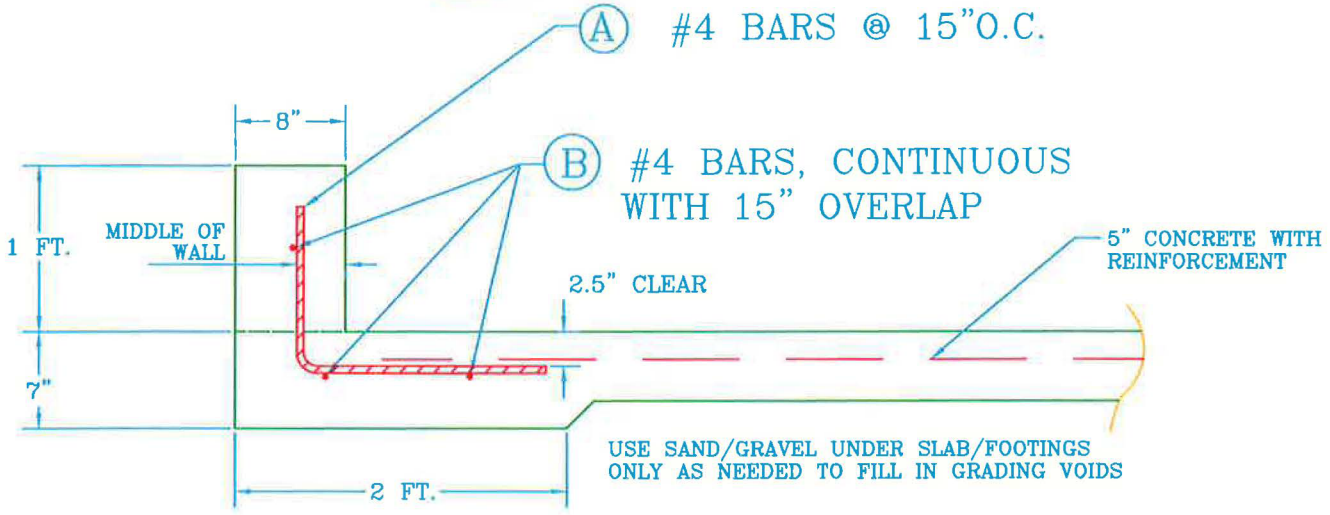
1. Within 300 feet of streams and rivers. (Surface Water Quality Management Area - SWQMA)
2. Within 1,000 feet of lakes.
3. 200 feet upgradient of wells, sinkholes, creviced bedrock at the surface or other direct conduits to the groundwater, such as gravel pits and wells.
4. Hydric soils and soils with slopes greater than 6%.
5. Locally identified areas with a high potential to pollute surface water.

SOILS (all)

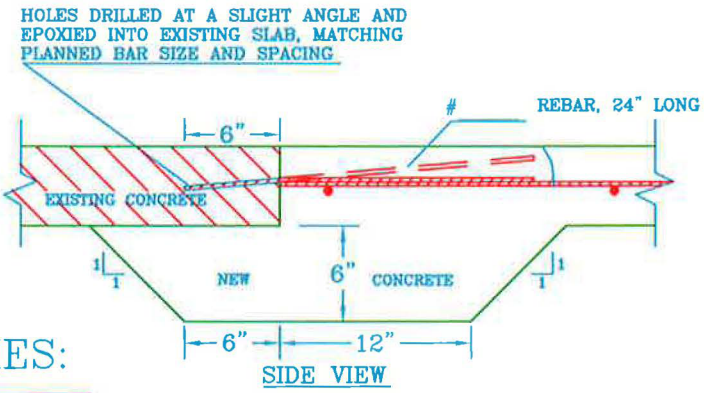
AIR PHOTO: Spring 2005

(b) (6)
(b) (6)
(b) (6)

TYPICAL SECTION



N/A ~~USE WHEN CONNECTING TO EXISTING SLAB~~

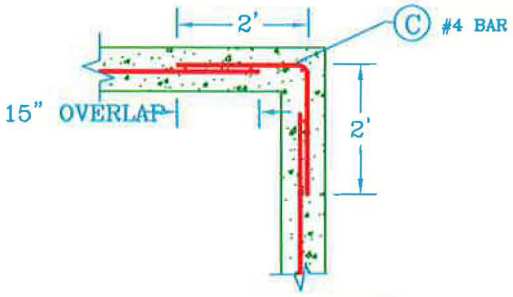


QUANTITIES:

CONCRETE:

(.068 CU.YD./LIN.FT.) 12.25 CU. YD.

STEEL, #4 BARS, 40 GRADE: 937 LIN. FT.
(5.2 FT. PER LIN,FT.)



CORNER PLAN VIEW

R TYPE 2
S

LINEAL FT. OF WALL 180'

STEEL SCHEDULE

MARK	SIZE	QUANT.	TYPE	R	S	LENGTH	TOTAL LENGTH
A	#4	145	2	1'-0"	1'-6"	2'-6"	362.5
B	#4		STR.	—	—	20'-0"	574
C	#4	—	2	2'-0"	2'-0"	4'-0"	—

FOR CURB ON MANURE PIT RAMP

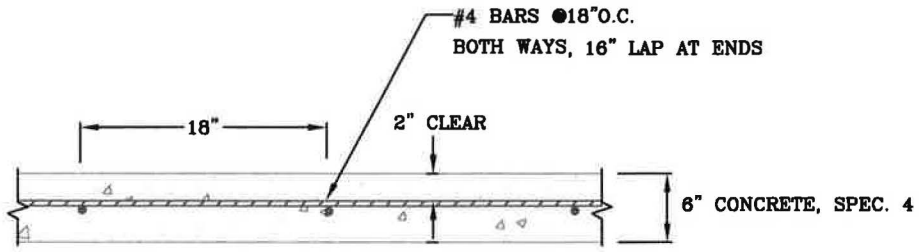
1 FT. WALL

(b) (6)

OWNER

Designed: DLW Checked:

SHEET 9 OF ____



TYPICAL SECTION

GENERAL CONSTRUCTION NOTES:

1. CONCRETE IS TO BE MIXED AND PLACED ACCORDING TO WIS. SPEC. 4.
2. JOINTS, IF USED, ARE TO BE SPACED AS SPECIFIED. SEE SHEET(S) 10B
3. WHITE CURING COMPOUND SHALL BE APPLIED TO CONCRETE AS SOON AS THE CONCRETE CAN BE WALKED ON.
4. SITE PREPARATION: REMOVE ALL ORGANIC AND UNCOMPACTED SOIL
5. ANY RAMPS NEED ROUGHENED SURFACE.
6. SUB–BASE TO BE COMPACTED AND GRADED EVENLY PRIOR TO CONCRETE PLACEMENT. SAND/GRAVEL MAY BE USED SPARINGLY FOR FINE GRADING.

QUANTITIES:

SLAB LOCATION– Floor / Ramp

SLAB AREA 22,392 SQ. FT.

CONCRETE SLAB 413.3 CU.YD.
(6" SLAB – 1.85 CU. YD. PER 100 SQ. FT.)

SAND/GRAVEL OR CRUSHED STONE – AS NEEDED

REBARS: (#4 @ 18" O.C.) 31,797 LIN.FT.
ALL STEEL 60 GRADE (1.42 lin.ft./sq.ft.)

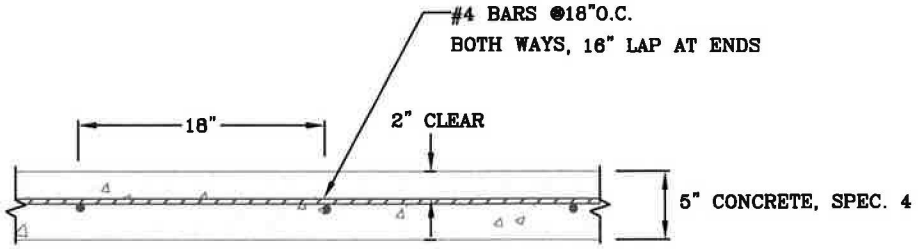
WHITE CURING COMPOUND 22,392 SQ.FT.
(ASTM C–309, TYPE 2) approx. 112 gallons.

CONCRETE SLAB
COMPOSITE LINER

(b) (6)
OWNER

Designed: DLW Checked:

SHEET 10 OF



TYPICAL SECTION

GENERAL CONSTRUCTION NOTES:

1. CONCRETE IS TO BE MIXED AND PLACED ACCORDING TO WIS. SPEC. 4.
2. JOINTS, IF USED, ARE TO BE SPACED AS SPECIFIED. SEE SHEET(S) 10B
3. WHITE CURING COMPOUND SHALL BE APPLIED TO CONCRETE AS SOON AS THE CONCRETE CAN BE WALKED ON.
4. SITE PREPARATION: REMOVE ALL ORGANIC AND UNCOMPACTED SOIL
5. ANY RAMPS NEED ROUGHENED SURFACE.
6. SUB-BASE TO BE COMPACTED AND GRADED EVENLY PRIOR TO CONCRETE PLACEMENT. SAND/GRAVEL MAY BE USED SPARINGLY FOR FINE GRADING.

QUANTITIES:

SLAB LOCATION- Sideslopes
SLAB AREA 6610 SQ. FT.

CONCRETE SLAB 102.5 CU.YD.
(5" SLAB - 1.55 CU. YD. PER 100 SQ. FT.)

SAND/GRAVEL OR CRUSHED STONE - AS NEEDED

REBARS: (#4 @ 18" O.C.) 9400 LIN.FT.
ALL STEEL 60 GRADE

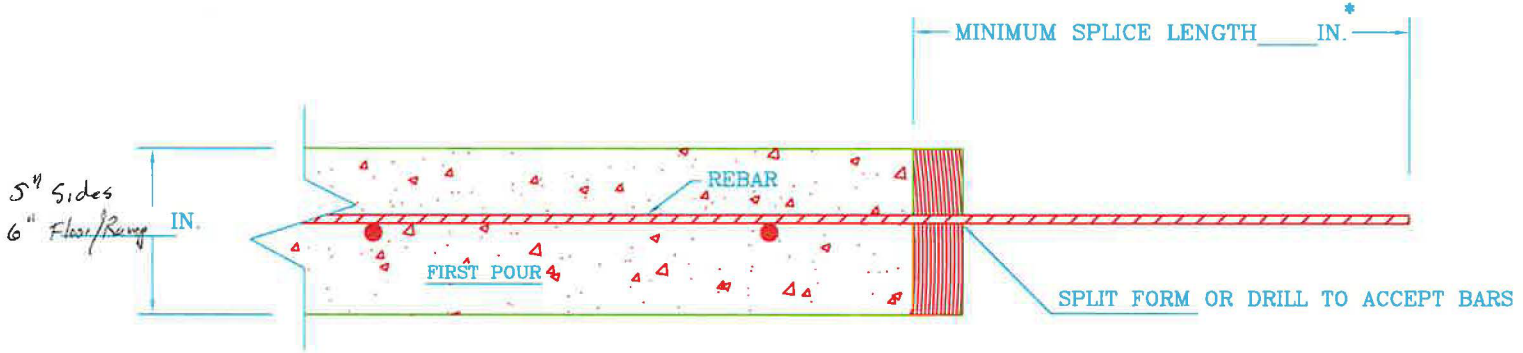
WHITE CURING COMPOUND 6610 SQ.FT.
(ASTM C-309, TYPE 2) ≈ 47 gal.

CONCRETE SLAB
COMPOSITE LINER

(b) (6)
OWNER

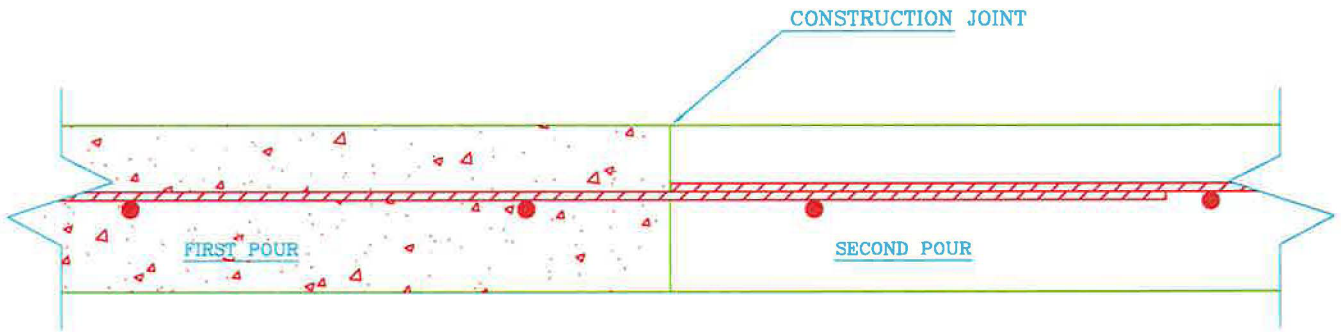
Designed: KW Checked:

SHEET 10A OF



*SPLICE LENGTHS:

#3 – 12"
#4 – 16"
#5 – 20"



CONSTRUCTION NOTES:

1. STEEL SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS
2. REINFORCING STEEL SIZE AND SPACING IS ON SLAB OR WALL DRAWINGS

CONSTRUCTION JOINT FOR SLABS OR WALLS

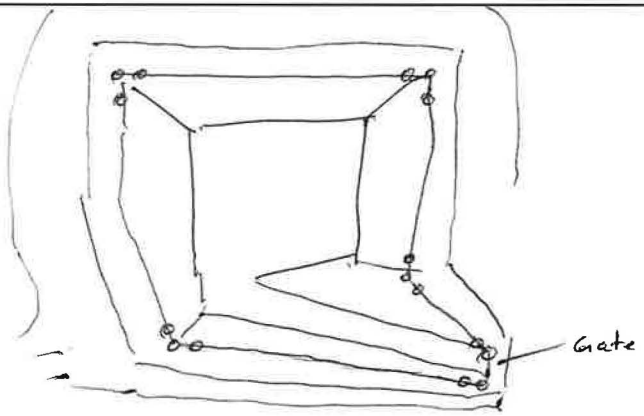
(b) (6)
(b) (6) (b) (6)

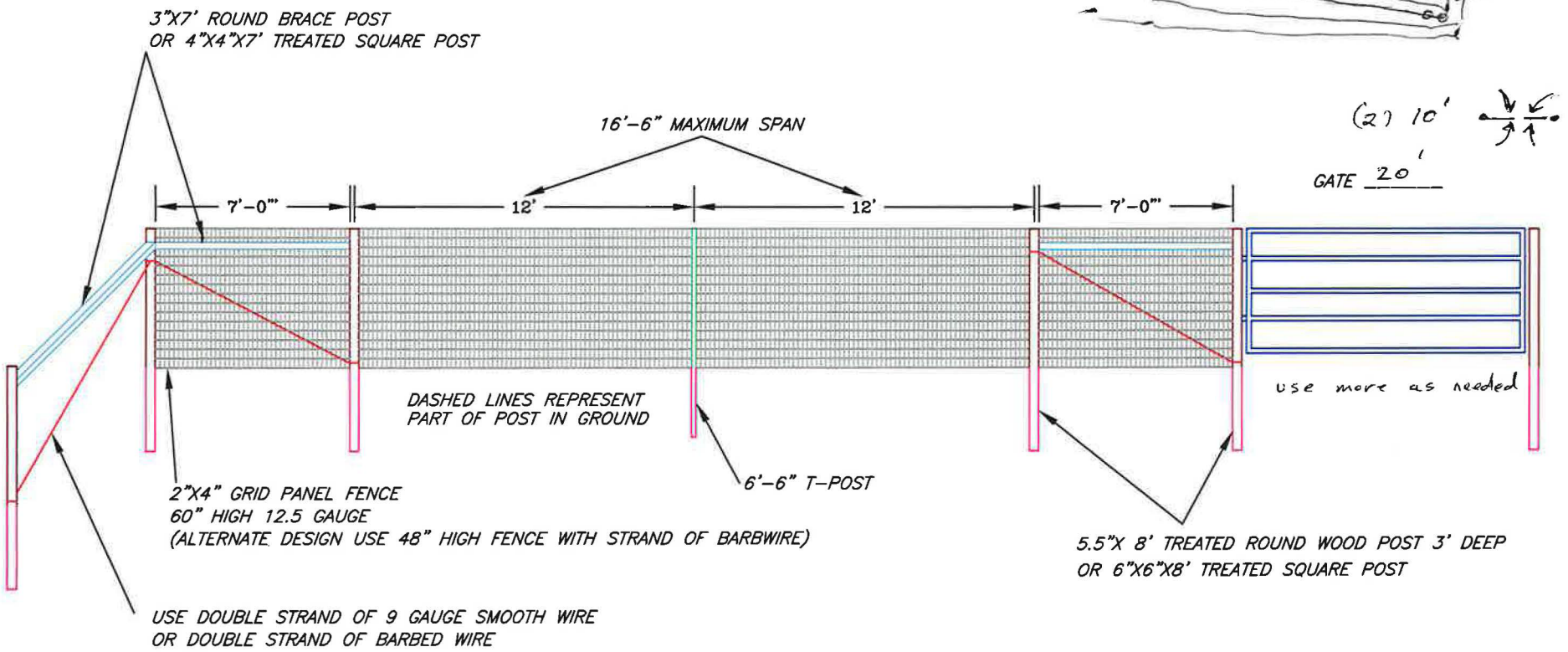
OWNER

Designed: DLW Checked:

SHEET 108 OF ____

FENCE DETAIL





FENCE LENGTH	1014
5.5"X8' OR 6"X6"X8' POSTS	16
3"X7' OR 4"X4"X7' BRACE POST	10
6'-6" T-POST	79
GATES	(2) 10'

BROWN COUNTY LAND CONSERVATION DEPARTMENT

OWNER: (b) (6)	
DRAWN BY: DLW	DATE:
CHECKED BY:	DRAWING NO.:
JOB NO.:	SHEET 11 OF

SEEDING DATES — CENTRAL

TIME PERIOD	DATES			TYPE OF SEEDING
Spring	April 15	through	June 1	Permanent
Summer	June 2	through	see WI-710ss pg 2	Temporary *
Late Summer	August 1	through	August 21	Permanent
Fall	August 22	through	see WI-710ss pg 2	Temporary *
Late Fall	November 1	through	Snow Cover	Dormant
Winter	Snow Cover	through	April 14	Not Allowed

MATERIALS

If no soil test is available, apply a minimum of 150 pounds of 20-10-10 fertilizer per acre. This is equivalent to 30 pounds nitrogen (N), 15 pounds phosphate (P205), and 15 pounds potash (K2O) per acre. Apply two tons of 80-89 lime or equivalent.

* Seed a temporary cover crop of Oats at 64 # /ac (2 bu/ac)
A permanent seeding shall be completed during the next acceptable time period following a temporary seeding.

MINIMUM PURE LIVE SEED (PLS)[1] RATE PER ACRE AND TOTAL POUNDS OF SEED NEEDED

SEEDING MIX (DESIGN) 6	LOCATION: all disturbed ACRES: 2.50	
SPECIES	RATE	POUNDS
Smooth Bromegrass	8.8	21.9
Timothy	2.5	6.3
Creeping Red Fescue	1.3	3.1
Kentucky Bluegrass	1.3	3.1
Perennial Ryegrass	3.8	9.4
Red Clover	3.8	9.4
** Oats	80.0	200.0

SEEDING MIX (AS-BUILT)	LOCATION ACRES	
SPECIES	RATE	POUNDS

[1] PLS = (% Germination x % Purity)

ADDITIONAL SEED PERCENTAGE: 25 %

** Companion Crop

Mulching Required No

Seed mixture shall meet all requirements of the WI weed laws.
Species identified as restricted or prohibited by law shall not be planted.
Certified seed shall be used, and the seeding rates will be based on pure live seed.
For dormant seedings, increase the seeds per square foot by 15%.

SEEDBED PREPARATION

Seedbed preparation shall immediately follow construction activities.
Prepare a fine, firm seedbed to a minimum depth of three inches. A seedbed is considered firm when a footprint penetrates 1/4 to 1/2 inch deep.

SEEDING

Inoculate legumes with the specific inoculum for the species in accordance with the manufacturer's recommendations. When using a hydroseeder, five times the recommended rate of inoculant shall be added to the hydroseeder. Inoculant shall not be mixed with liquid fertilizer.

Seed may be broadcast or drilled as appropriate to the site.
Seed, fertilize, and lime as soon as possible after construction.
Seeding perpendicular to direction of flow is required to limit erosion.

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

INTRODUCED SPECIES
SEEDING ESTABLISHMENT

COOPERATOR: Ledgeview Farms, LLC
COUNTY: BROWN

		Dat
Designed	DLW	10/17/14
Drawn		
Checked		
Approved		

File Name: WI-710SS pg 1 of 2 11-2013

Sheet x of x
12

SEEDING CONTINUED

Seed grasses and legumes no more than 1/4 inch deep.

Consider seeding at a lower rate and making 2 passes to ensure more uniform distribution.

TEMPORARY SEEDING OPTIONS

Select one of the following species for temporary cover if:

1) The required seeds or plant stock are not available or the normal permanent seeding period for the species has passed
   - Forage Sorghum - 1/2 bushel per acre (May 15-July 15)
   - Sorghum - Sudangrass Hybrid - 1 bushel per acre (May 15-July 15)
   - Sudangrass - 1 bushel per acre (May 15-July 15)
   - Winter Wheat - 2 bushels per acre (Aug 1-Oct 1)
   - Winter Cereal Rye - 2 bushels per acre (Aug 1-Oct 15)
   - Oats - 2 bushels per acre (Apr 1-Sept 1)
   - Annual Ryegrass - 20 Pounds per acre (Apr 1-Sept 1)

2) Triazine herbicide carryover will not allow establishment of permanent cover immediately.
   - Forage Sorghum - 1/2 Bushel per acre (May 15-July 15)
   - Sorghum - Sudangrass Hybrid - 1 Bushel per acre (May 15-July 15)
   - Sudangrass - 1 Bushel per acre (May 15-July 15)

DORMANT SEEDING

Seed is broadcast and incorporated, no-tilled, or drilled into the seedbed .
Seedbed preparations and conditions are similar to conventional seeding.

MULCHING Mulching not required

OPERATIONS AND MAINTENANCE PLAN
WASTE STORAGE FACILITIES

I agree to the following:

1. Inspect the facility periodically.

2. Dikes shall be maintained in vegetative cover. Cut and remove weeds, shrubs and trees from the dikes. Grass shall be mowed at least once per year. Control rodents as needed.

3. Maintain necessary safety features including proper fencing, warning signs, stop blocks, guard rails and similar items.

4. Handling Manure

   A. **Transfer System**

      1) When transferring manure into the manure storage via above ground portable pumps/pipes place pipe on the concrete ramp to prevent erosion of the clay side slopes.

      2) If an underground transfer system is going to be added into the facility in the future a permit and plan must be submitted to and approved by WDNR & Brown County LWCD prior to installation.

      3) This manure storage facility will be loaded by farm machinery as needed from both farm operations. As manure is cleaned from barns and concrete barnyard areas it will be loaded into spreaders or dump boxes by tractor loader or skidsteer and then driven to this structure and unloaded. This is the same way the two existing concrete tanks are managed.

   B. **Storage**

      1) Empty before reaching or at maximum operating level.

   C. **Emptying**

      1) This structure is planned to have a concrete ramp and floor for ingress/egress. Use only equipment designed to be used on the concrete slab. As cleaning is underway avoid digging into or disturbing the integrity of the soil on the side slopes.

      2) Spreading amounts, rates and times to empty are to follow approved 590 nutrient management plan.

5. **Contingency Plan**

A. If pit fills over the maximum operating level (M.O.L) before proper scheduled emptying, your contingency plan must be implemented. Notify your WDNR regional contact and Brown County Land Conservation Department immediately to assist in this process.

1) Stop all inputs of waste to the storage facility.

2) Haul enough manure to fields that can be spread safely in winter conditions and according to a 590 nutrient management plan and an approved winter spreading plan.

3) Haul enough loads to neighboring approved storage facilities that are able to hold extra without jeopardizing its maximum operating level.

B. All spills and overflows shall be cleaned up and hauled by mechanical methods, then spread on cropland according to the 590 nutrient management plan.

6. **Emergency Response Plan**

A. In case of large emergency spills or overflows-

1) Implement the above contingency plan immediately.

2) Stop or divert flow by earthworks equipment to any water body. Try and contain manure flow if possible.

3) Evaluate the extent of the spill and any other resulting damages.

4) Clean up manure spill and spread manure according to your nutrient management plan

5) Notify appropriate agencies immediately if your Emergency Response plan must be implemented.

Emergency Phone Numbers

- Wisconsin DNR Spill Reporting Hotline **(1-800-943-0003) 24 hours**
- Brown County Land Conservation Dept. **(920-391-4620)**
- DNR Conservation Warden **(920-662-5499)**

7. Design Numbers

A. Animal Numbers - Current Herd

1) No. of cows (b) (6)

2) No. of large heifers (b) (6)

3) No. of small heifers (b) (6)

4) No. of calves (b) (6)

5) No. of other Beef (b) (6)(b) (6)

B. Other Wastes (List)

1) Processes wastewater 1000 gal/day.

2)

C. Size of Waste Storage

1) Designated depth 26'

2) Depth of maximum operating level 23'

3) Elevation of maximum operating level 84.0

4) Designed maximum operating volume 592,256 FT³ / 4,430,076 GALLONS

NOTE: Maximum operating level is the top of the manure storage to where facilities must be emptied.

Above the maximum operating level is one foot freeboard, the 25 year, 24 hour rainfall event and the settlement of the earthen bank.

MAINTENANCE PLAN

Manure Storage Facility

Ledgeview Farms, LLC
OWNER

Brown LCD, WI
COUNTY

Designed: DLW Checked:

* 180 Day storage required equals 3,696,461 gal. storage provided allows for 209 days. DLW

Signature _____ Date _____

Construction Site Erosion Control Plan Narrative
Ledgeview Farms

This Farm consists of two main farm sites. The Upper Farm is located on the ledge/escarpment off (b) (6)(b) (6) near (b) (6)(b) (6) in the Town of Ledgeview and contains the milking herd and calf/small heifer raising facilities. The Lower Farm is located below the ledge/escarpment off of (b) (6)(b) (6) in the Town of Ledgeview (also known as (b) (6)(b) (6)) and handles the beef and heifer replacement facility along with most of the feed storage reserves. This farm manages animals with organic and sand bedding creating semi-solid manure. Most manure is cleaned and hauled daily or as needed from the facility and land spread almost year round. Two existing concrete manure storages have been used to handle the storage of manure as needed when field applications can not take place due to weather or field conditions. These structures are small in comparison to the volumes of manure generated on the two farms and the need for a larger manure storage facility is being proposed to help with this. These two structures will not be used anymore, but will be maintained for possible emergency use. Existing farm lanes, parking lots and heavy use areas consist of gravel lined areas, concrete paving and earth lanes. See aerial photos for existing site layout. The proposed project is to build a combination earthen & concrete composite lined manure storage facility located northeast of the existing waste storage structures. This plan is being developed to address potential erosion and storm water runoff during the associated filling and grading duration of the project until vegetation can be re-established. For construction a total of +/- 4.7 acres will be disturbed of which is a mixture of cropland, pasture and woods. This drainage area will be decreased in size for storm water flow purposes as the new manure storage will serve as its own storm water basin when being constructed and after completed (reducing drainage area and peak flow) with no discharge. A post storm water discharge has not been calculated to compare peaks flows before and after construction.

Runoff curve number (RCN) before = 75
Disturbed Area Projected 4.7 - Drainage Area (pre-construction) 4.7 Ac.
Existing Land Use:
Cropland 1 Ac.
Pasture 1.7 Ac
Woods 2.1 Ac

% Impervious 0.0

Runoff curve number (RCN) after = 72
Disturbed Area Projected 4.7 - Drainage Area (post-construction) 3 Ac.
Post Construction Land Use:
New Manure Storage (internally drained) 1.7 Ac.
Semi-Impervious travel lanes, gravel surfacing for pumping areas) 0.3 Ac.
Grass Areas (berm tops/side slopes, drainage ditches, idle land) 2.7 Ac.

% Semi-Impervious 10 %

Soils present: Kewaunee & Kolberg Series silty clay soils

Soil Boring - #5
0 – 8" - Topsoil
8"- 15.2' - Red Silty Clay, CL

Practices proposed – seeding and mulching, ditch bale checks, silt fencing and planned construction sequences to reduce offsite erosion.

Construction Site Erosion Control Plan
Ledgeview Farms

-Copies of the Construction Site Erosion Control Plan and General Storm Water Discharge Permit must be kept on site during construction.
-Erosion and sediment control practices must inspected weekly and within 24 hours following a rainfall of 0.5 inches or greater.
-An erosion and sediment control practice inspection log shall be maintained. Log shall note the time, date, and location of inspection, assessment of control practices, and description of erosion and sediment control measures or maintenance done in response to the inspection.

(FOLLOW THIS SEQUENCE DURING CONSTRUCTION)

1. Install perimeter silt fencing and maintain during construction and until vegetation is established.
2. Remove trees, stumps and brush. Stumps may be used as fill in very bottom of the manure storages north toe slope if covered with at least 24" of clean fill and topsoil. Strip sites topsoil. Topsoil will be stockpiled in a designated spoil site located on plan view and surrounded by silt fencing as shown on erosion control plan view or topsoil not planned to be regraded on site in less than two weeks shall be stored in stockpile area and temporarily seeded.
3. Channels for surface runoff. After all topsoil is stripped, all ditches shall be excavated 4" under grade and 4" of topsoil shall be uniformly placed and straw bale ditch checks installed. See plan view for location and specs. All channel grades are at a non-erosive grade/velocity.
4. Before clay fill material is trucked into site to meet planned grades, construct a tracking pad on travel lanes with at least 8"of breaker run sub-base from the manure storage ramp to the existing storage structures shown on the proposed map.
5. Monitor all silt fences, seeding and ditch checks (sediment traps) weekly and after every rain event. Repair any damage or erosion problems immediately.
6. After all grades are met, seed and mulch all disturbed areas within 1 week.
7. Have a designated construction site waste materials handling area with proper disposal equipment on site.
8. Any sediment tracked onto (b) (6) Road during construction phase must be scraped or brushed off of the roads and prevented from entering road ditches, culverts and road shoulders. Monitor Daily.

Permanent Seeding – 2.7 Acres

Plant @:
Smooth Bromegrass – 25.2 lbs/ac.
Timothy – 1.8 lbs/ac
Red Clover – 3.6 lbs/ac
Mulch @ 2 tons/ac

Storm Water Plan
(AFTER CONSTRUCTION IS COMPLETE)

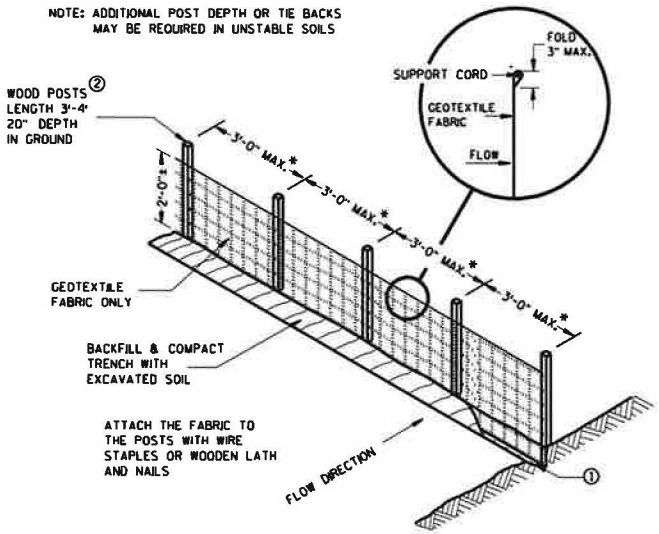
1. Clean out accumulated soil above ditch check dams and grade.
2. Add 4"-6" of surfacing gravel to tracking pad and any other travel lanes/pumping areas. Make sure all planned heavy use/high traffic areas receive 8" breaker run stone base with 4"-6" surfacing gravel to provide a solid and durable lane for manure hauling operations.
3. Repair, seed and mulch channels, side slopes or disturbed areas.
4. All areas not needed for equipment or animal traffic will be maintained in a permanent grass or agricultural cropping system. Mow annually.
5. Remove ditch checks and silt fencing after all waterways and disturbed areas have been established in vegetation with at least 70% ground cover. Dispose of waste properly and do not burn silt fencing.

GENERAL NOTES

① TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

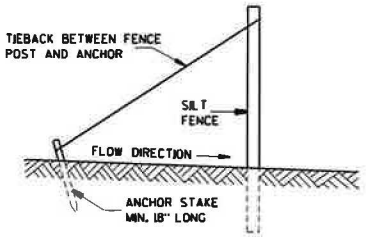
② WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

③ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) TWIST METHOD -- OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK METHOD -- HOOK THE END OF EACH SILT FENCE LENGTH.

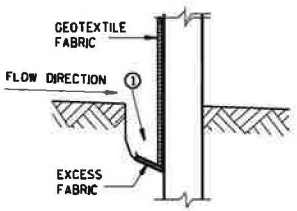


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

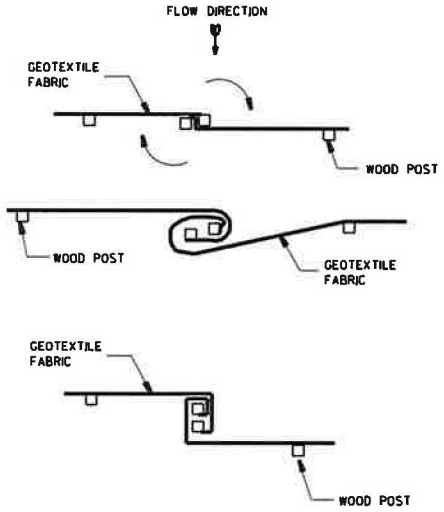
SILT FENCE



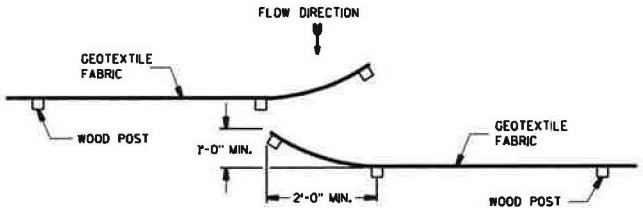
SILT FENCE TIE BACK
(WHEN ADDITIONAL SUPPORT REQUIRED)



TRENCH DETAIL



TWIST METHOD



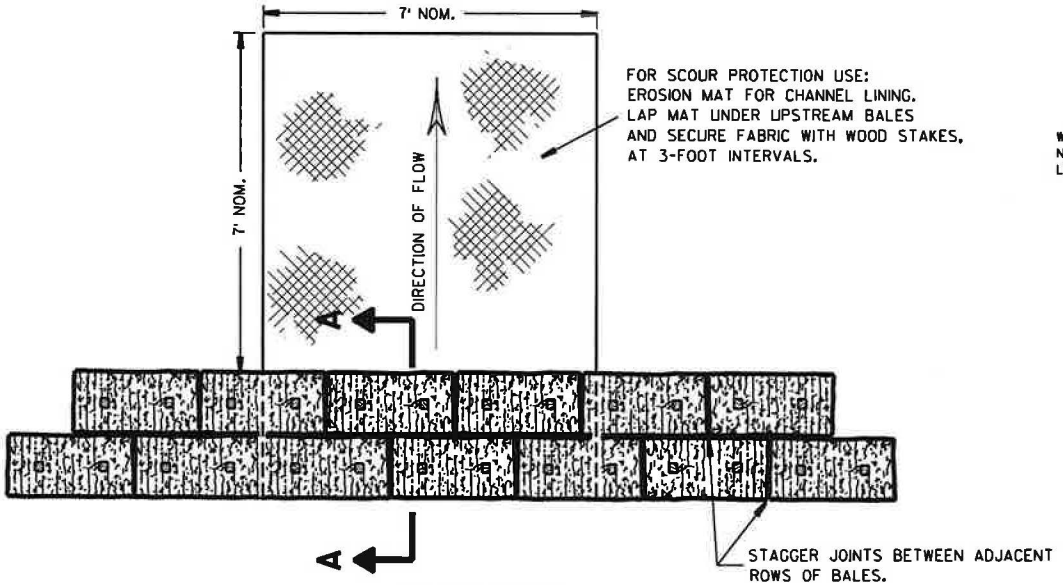
HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ④

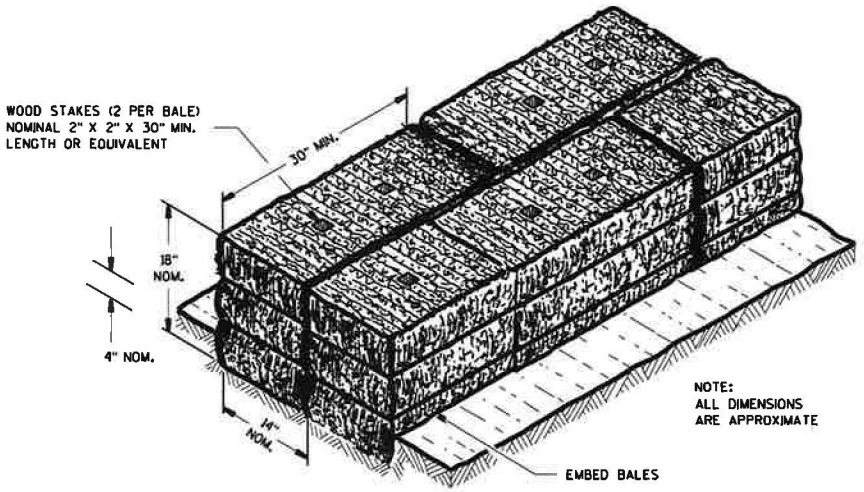
This drawing based on Wisconsin Department of Transportation Standard Detail Drawing B E 9-6.

SILT FENCE

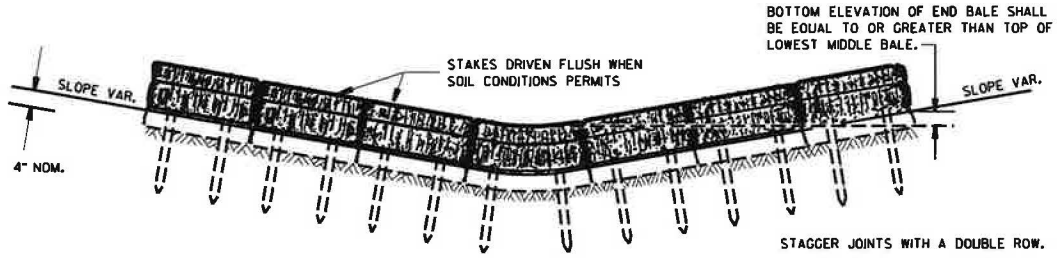
Figure 1



PLAN VIEW



SECTION A-A

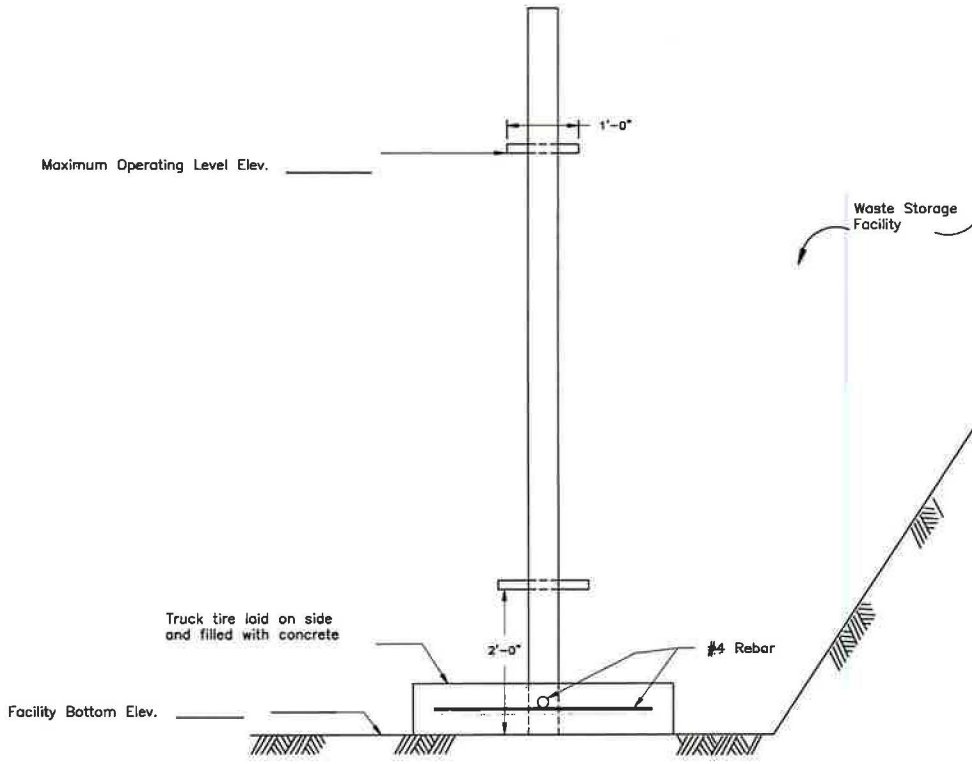


FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

This drawing based on Wisconsin Deptartment of Transportation Standard Detail Drawing 8 E 8-3.

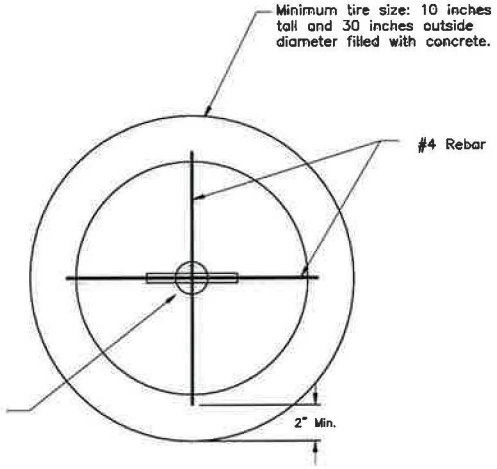
TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS



DEPTH GAUGE

Notes:

1. The depth gauge shall be a minimum 4" diameter PVC Schedule 40 post with 1" diameter Sch. 40 PVC pipe inserted through holes drilled through the post as shown above.
2. The post shall then be filled with concrete



PLAN VIEW – TRUCK/TRACTOR TIRE

Not to Scale

Date

Designed

Drawn

Checked

Approved

MOL INDICATOR

OWNER:

COUNTY:

United States Department of Agriculture

Natural Resources Conservation Service

File Name
WI-500A

Date
07/14

Sheet of